

Title (en)

CLEANING AGENT FOR SEMICONDUCTOR SUBSTRATES AND METHOD FOR PROCESSING SEMICONDUCTOR SUBSTRATE SURFACE

Title (de)

REINIGUNGSMITTEL FÜR HALBLEITERSUBSTRATE UND VERFAHREN ZUR VERARBEITUNG DER OBERFLÄCHE EINES HALBLEITERSUBSTRATS

Title (fr)

AGENT DE NETTOYAGE POUR SUBSTRATS SEMI-CONDUCTEURS ET PROCÉDÉ DE TRAITEMENT D'UNE SURFACE DE SUBSTRAT SEMI-CONDUCTEUR

Publication

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Application

EP 14859390 A 20141107

Priority

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- JP 2014079651 W 20141107

Abstract (en)

[origin: EP3051577A1] The present invention relates to a cleaning agent for a semiconductor substrate having a copper wiring film or a copper alloy wiring film, and a cobalt-containing film to be used in a post-process of a chemical mechanical polishing process, comprising (A) an organic acid represented by general formula described in the present specification, (B) amines selected from the group consisting of (B-1) diamines, (B-2) amidines, (B-3) azoles, and (B-4) pyrazines or pyrimidines, represented by general formulae described in the present specification, (C) a hydroxylamine derivative, and (D) an oxygen scavenger represented by general formula described in the present specification, and being an aqueous solution having a pH of 10 or higher; and a processing method for the surface of a semiconductor substrate, having a copper wiring film or a copper alloy wiring film, and a cobalt-containing film, which comprises using the cleaning agent.

IPC 8 full level

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CPC (source: EP IL KR US)

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Citation (search report)

[A] WO 2011094568 A2 20110804 - ADVANCED TECH MATERIALS [US], et al

Cited by

CN108659965A; EP3099839A4; US10557107B2; WO2019118820A1; US10844332B2

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